

NOTES ON BROMELIACEAE, XIII

Lyman B. Smith

TROPICAL AMERICA

GUZMANIA LINGULATA (L.) Mez in DC. Monogr. Phan. 9:899. 1896.

1. Leaves more than 25 mm. wide; plants large; floral bracts strongly cucullate; flowers numerous.
2. Outer (involucral) bracts of the inflorescence erect, red or pink.
3. Leaves concolorous.....A. Var. *lingulata*
3. Leaves marked with red-purple longitudinal stripes.  
B. Var. *splendens*
2. Outer (involucral) bracts of the inflorescence spreading, bright scarlet.....C. Var. *cardinalis*
1. Leaves usually not more than 25 mm. wide; plants small; floral bracts weakly cucullate; flowers few.
4. Leaf-sheaths concolorous with the blades; outer (involucral) bracts of the inflorescence red.....D. Var. *minor*
4. Leaf-sheaths castaneous; outer (involucral) bracts of the inflorescence bright scarlet.....E. Var. *flammea*

A. GUZMANIA LINGULATA var. LINGULATA

Tillandsia lingulata L. Sp. Pl. 286. 1753.

B. GUZMANIA LINGULATA var. SPLENDENS (Planch.) Mez, Pflanzenreich IV. Fam. 32:609. 1935.

Caraguata splendens Planch. Fl. Serres 11:31, pl. 1091. 1856;

A. Dietr. in Otto & Dietr. Allg. Gartenzeit. 24:96, pl. 3. 1856. Priority verified by Robert C. Foster.

C. GUZMANIA LINGULATA var. CARDINALIS (André) André ex Mez in DC. Monogr. Phan. 9:900. 1896.

Caraguata cardinalis André, Rev. Hortic. 55:12, pl. 1883.

Guzmania cardinalis (André) Mez, Pflanzenreich IV. Fam. 32:609. 1935.

D. GUZMANIA LINGULATA var. MINOR (Mez) L. B. Smith & Pittendrigh, comb. nov.

Guzmania minor Mez in DC. Monogr. Phan. 9:901. 1896.

E. GUZMANIA LINGULATA var. FLAMMEA (L. B. Smith) L. B. Smith & Pittendrigh, comb. nov.

Guzmania minor var. flammea L. B. Smith, Caldasia 5:4. 1948.

Field observations in Trinidad by C. S. Pittendrigh indicate that what have been considered three distinct species by Mez, Guzmania lingulata, G. cardinalis, and G. minor, intergrade to such an extent that they can be no more than varieties. On the other hand, G. cardinalis shows strong varietal characters that

are obscured or lost in dried material, and thus it should not be reduced to typical G. lingulata as I have done previously.

VENEZUELA

GREIGIA ARISTEGUIETAE L. B. Smith, sp. nov.

A G. sodiroana Mez, cui affinis, foliorum vaginis atro-castaneis, laminis glabris differt.

Caulescent; leaves spreading, to 1 meter long; sheaths ovate, 8 cm. long, entire, dark castaneous with narrow pale margins, very sparsely appressed-lepidote beneath; blades linear, acuminate, slightly narrowed toward base, to 16 mm. wide, obscurely serrulate toward base and apex, glabrous; scapes lateral, 4 cm. long; inflorescences subglobose, 35 mm. long, few-flowered, depauperately compound with 1-2-flowered branches; outer (scape- and primary) bracts broadly ovate, acute, to 30 mm. long, bearing a few curved teeth near apex, dark castaneous with narrow pale margins, glabrous; floral bracts lanceolate, mucronate, ca. 2 cm. long; sepals lance-oblong, mucronate, 17 mm. long, dark castaneous; fruit ellipsoid, 2 cm. long. Pl. I, fig. 1: Leaf-base x 1/2; fig. 2: Inflorescence x 1/2; fig. 3: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,281,423, collected on the ground in deep shade of forest, Guirigay, State of Trujillo, Venezuela, altitude ca. 3300 meters, August 1958, by L. Aristeguieta (No. 3591). Isotypes (NY, VEN).

NAVIA CARDONAE L. B. Smith, sp. nov.

A N. cucullata L. B. Smith, cui affinis, vaginis foliorum angustioribus, bracteis florigeris acuminatis sepala superantibus differt.

Caulescent, branching; leaves very many, to 9 cm. long, barbellate in the axils of the lower spines, otherwise glabrous, the inner leaves not distinctively colored; sheaths broadly ovate, 10 mm. wide, entire, red-brown; blades linear, acuminate, 2.5 mm. wide, not narrowed toward base, stiff, subpungent, even above, obscurely nerved beneath, finely spinulose-serrate throughout; inflorescence terminal, sessile, simple, narrowly ellipsoid, 20 mm. long, 6 mm. in diameter, nearly glabrous; floral bracts ovate, acuminate, exceeding the sepals, carinate, thin, red-brown, the lowest serrulate near apex; sepals free, sublinear, cucullate, 10 mm. long, the posterior ones narrowly alate-carinate; ovary superior. Pl. I, fig. 4: Leaf-base x 1; fig. 5: Inflorescence x 1; fig. 6: Posterior sepal x 2.

Type in the Instituto Botánico, Caracas, No. 18517, collected by the Río Canaracuni (tributary of the Río Caura), State of Bolívar, Venezuela, altitude 400 meters, February 21, 1940, by F. Cardona (No. 349).

PITCAIRNIA MICROCALYX var. SCHLIMII (Baker) L. B. Smith, comb. nov.

Pitcairnia schlimii Baker, Handb. Bromel. 100. 1889.

Pitcairnia caracasana Baker, Handb. Bromel. 103. 1889.

Flowers red instead of yellow, otherwise indistinguishable from variety microcalyx.

PITCAIRNIA MICROCALYX var. ELLIPTICA L. B. Smith, var. nov.

A var. microcalyx bracteis florigeris ellipticis, floribus rubris, sepalis oblongis subacutis differt.

Type in the Instituto Botánico, Caracas, collected above La Sabana de las Piedras, Cerro Negro, northwest of Caripe, State of Monagas, Venezuela, altitude 1500-2180 meters, April 15, 1945, by J. A. Steyermark (No. 62077). Isotypes (F, GH).

PUYA CARDONAE L. B. Smith, sp. nov.

A P. santanderensis Cuatr., cui maxime affinis, sepalis minoribus, indumento ferrugineo differt.

Flowering about 3 dm. high; leaves numerous, 3 dm. long (incomplete, estimated); sheaths suborbicular, 35 mm. in diameter, dark castaneous and sparsely serrulate toward apex, glabrous; blades linear, 15 mm. wide, glabrous above, covered beneath with appressed cinereous scales, laxly serrate with straight or uncinately blackish brown spines 3 mm. long; scape erect, stout; scape-bracts densely imbricate, elliptic, dark brown and subchartaceous when dry, ferruginous-lanate quickly becoming glabrous except along the margins, the lower ones foliaceous-laminate; inflorescence simple, subglobose, 6 cm. long, ferruginous-lanate but the bracts soon glabrous except the margins; floral bracts straight, densely imbricate, ovate, acuminate, 5 cm. long, exceeding the flowers, entire, membranaceous, dark brown with finely crisped margins when dry; pedicels stoutly obconic, 3 mm. long; sepals lanceolate, obtuse, 15 mm. long; petals naked, ca. 3 cm. long, twisted together after anthesis. Pl. I, fig. 7: Inflorescence x 1/4; fig. 8: Flower x 1; fig. 9: Denuded sepal x 1.

Type in the Instituto Botánico, Caracas, No. 18562, collected on the Páramo de Tamá, State of Táchira, Venezuela, altitude 3100-3300 meters, July 1939, by F. Cardona (No. 335).

#### ECUADOR

GUZMANIA FOSTERIANA L. B. Smith, sp. nov.

A G. strobilantha (R. & P.) Mez, cui affinis, stolonibus brevibus erectis procreante, rosulis dense aggregatis, foliorum vaginis ad basin versus longe atro-castaneis differt.

Reproducing by short erect stolons covered by dark castaneous scales, the rosettes densely aggregated; flowering shoots ca. 4 dm. high; leaves 2-3 dm. long, subdensely brown-punctulate beneath; sheaths ovate, 5-8 cm. long, their basal half dark castaneous; blades linear, acuminate, 10-15 mm. wide, green, concolorous; scape erect, slender; scape-bracts imbricate, closely enfolding the scape, the lowest subfoliaceous, the others lanceolate, acuminate, chartaceous, nerved, dull, stramineous when dry; inflorescence simple, ellipsoid or subglobose, 3 cm. long, rather few-flowered; floral bracts broadly ovate, apiculate, to 15 mm. long, exceeding the sepals, ecarinate, subcoriaceous, even, gla-

brous, sublustrous, stramineous or pale green when dry; pedicels obconic, stout, 2 mm. long; sepals elliptic, broadly rounded at apex, 11 mm. long, connate for 5 mm., coriaceous, glabrous, the posterior ones alate-decurrent on the pedicel; petals highly conglutinated, naked, white, the blades spreading, elliptic, 7 mm. long; stamens included. Pl. I, fig. 10: Inflorescence x 1; fig. 11: Calyx x 1; fig. 12: Sepal x 1.

Type in the U. S. National Herbarium, No. 1,985,915, collected on tree, Province of Pichincha, Ecuador, altitude 1350 meters, December 9, 1948, by Mulford B. Foster (No. 2638).

ECUADOR: West of Ducur on the Cuenca-Guayaquil road, alt. 960 m., 1956, cult. Montréal Bot. Gard., 1958, H. Teuscher 2118-56 (US).

#### ECUADOR, PERU

GUZMANIA VARIEGATA L. B. Smith, sp. nov.

A G. squarrosa (Mez & Sodiro) Smith & Pittendrigh, cui verisimiliter affinis, sepalis liberis vel subliberis haud marginatis, fasciculis plurifloris differt.

Stemless, flowering 5-8 dm. or higher; leaves many in a spreading rosette, 7 dm. long, covered with appressed pale brown-centered scales; sheaths distinct, elliptic, brown; blades ligulate, acute, 4-5 cm. wide, green, concolorous; scape erect, much shorter than the leaves; scape-bracts foliaceous, large, densely imbricate but with spreading blades; inflorescence laxly bipinnate, 3-6 dm. long; axis nearly straight, ca. 8 mm. in diameter, glabrous, more or less sulcate when dry; primary bracts spreading, obscurely lepidote, broadly ovate, the lower with large red and green subfoliaceous blades; fascicles short-stipitate, stout-ellipsoid, about 10-flowered; floral bracts elliptic, obtuse, slightly cucullate, 30 mm. long, equaling or exceeding the sepals, rather thin, nerved, lepidote; pedicels short, stout; sepals elliptic, obtuse, 22-25 mm. long, free or short-connate, thin, nerved, green, sparsely lepidote within; petals 4 cm. long, highly conglutinated, naked, white, the blades erect, narrowly elliptic, obtuse; stamens included. Pl. I, fig. 13: Inflorescence after photo; fig. 14: Spike x 1/2; fig. 15: Flower x 1.

Type in the U. S. National Herbarium, No. 2,252,568, collected at Tambo Pass, Canchaque, Department of Piura, Peru, altitude 3800 meters, December 15, 1956, by W. Rauh.

ECUADOR: Oro: On tree, between La Chorita and Portovelo (gold mine near Zaruma), alt. 1000-2000 m., Aug. 28, 1923, Hitchcock 21179 (GH, US). Loja: Epiphytic, Porto Velo, road to Cachicaran, alt. 750 m., Nov. 30, 1948, Foster 2600 (US).

TILLANDSIA KUNTHIANA Gaud. Atl. Voy. Bonite pl. 53. 1842; cf. I.

M. Johnston, Journ. Arn. Arb. 25:487. 1944.

Tillandsia latifolia Meyen, Reise 437. 1843.

TILLANDSIA KUNTHIANA var. DIVARICATA (Benth.) L. B. Smith, comb. nov.

Tillandsia divaricata Benth. Bot. Voy. Sulph. 174. 1846.

Tillandsia latifolia var. divaricata (Benth.) Mez in DC. Monogr. Phan. 9:789. 1896.

TILLANDSIA KUNTHIANA var. MAJOR (Mez) L. B. Smith, comb. nov.

Tillandsia latifolia var. major Mez in DC. Monogr. Phan. 9:790. 1896.

#### GUIANA

AECHMEA BASI-LATERALIS (Lem.) L. B. Smith, comb. nov.

Disteganthus basi-lateralis Lem. Fl. des Serres 3: pl. 227. 1847.

Although Disteganthus does not seem to be separable from Aechmea as a genus, the species, D. basi-lateralis, is quite distinct and so the necessary combination is made here.

#### BRAZIL

DYCKIA MELLO-BARRETOI L. B. Smith, sp. nov.

A D. sordida Baker, cui affinis, inflorescentiae lepidibus adpresso-stellatis plus minusve deciduis, bracteis florigeris superioribus apiculatis, stylo distincto differt.

Known only from fragments but apparently flowering over 1 meter high; leaves over 3 dm. long; sheaths unknown; blades narrowly triangular, acuminate to an abruptly acute pungent apex, 15 mm. wide, pale-lepidote between the nerves on both sides, very laxly serrate with slender spreading mostly recurved spines 4 mm. long; scape 3 mm. in diameter at apex, minutely pale-lepidote at the nodes; scape-bracts ovate, acuminate, the upper remote; inflorescence subsimple with a short 2-flowered branch at base, lax, covered with ferruginous stellate appressed scales but the flexuous axis soon largely glabrous; floral bracts reflexed, the lower ovate, acuminate, 11 mm. long, nearly equaling the sepals, the upper suborbicular, apiculate, about half as long as the sepals; pedicels stout, 3 mm. long; flowers spreading; sepals broadly ovate, obtuse, 8 mm. long, erose; petals to 13 mm. long, the blades broadly obovate, emarginate, ecarinate; stamens included; filaments free above the common tube with the petals; anthers narrowly triangular, nearly straight, 3 mm. long; style simple, 2 mm. long. Pl. I, fig. 16: Base of inflorescence x 1/2; fig. 17: Sepal x 1; fig. 18: Petals and stamens x 1; fig. 19: Pistil x 1.

Type in the herbarium of the Instituto Agronômico, Belo Horizonte, collected in sand of second growth, by Ponte do Santo Antonio on the Estrada de Conceição, Município of Conceição, Minas Gerais, Brazil, September 1, 1933, by H. L. Mello Barreto (No. 2122).

PITCAIRNIA RUBIGINOSA var. AMAZONICA (Baker) L. B. Smith, comb. nov.

Pitcairnia amazonica Baker, Handb. Bromel. 117. 1889.

This variety differs from var. rubiginosa only in having the

floral bracts shorter than the pedicels and the character shows transition in the following variety.

PITCAIRNIA RUBIGINOSA var. INTEGRAL. B. Smith, var. nov.

A var. rubiginosa foliis integerrimis, bracteis florigeris superioribus quam pedicellis brevioribus differt.

Type in the herbarium of the Instituto Agronômico do Norte, Belém, collected in caatinga, Tunuí, Rio Içana, State of Amazonas, Brazil, March 28, 1952, by R. L. Fróes (No. 28083).

BRAZIL: Amazonas: Cachoeira do Rio Aracá, subtributary of Rio Negro, Oct. 30, 1952, Fróes & Addison 29175 (IAN). Alto Rio Aracá, Nov. 1, 1952, Fróes & Addison 29246 (IAN).

STREPTOCALYX MURCAE L. B. Smith, sp. nov.

A S. williamsii L. B. Smith, cui affinis, bracteis primariis subintegris, bracteis florigeris amplissimis apice emarginatis et brevissime mucronulatis differt.

Leaves 7-10 dm. long, covered with appressed pale-ferruginous scales on both sides; sheaths broadly ovate or elliptic, 8 cm. long, entire except near apex; blades ligulate, acute with a thick involute-subulate apex, 45 mm. wide, narrowed toward base, laxly serrate with antrorse spines 1.5 mm. long; scape evident, about 10 cm. long; scape-bracts subfoliaceous but much reduced, very densely imbricate; inflorescence densely bipinnate, cylindrical, 12 cm. long, 5 cm. in diameter, finely ferruginous-lepidote except the petals; axis lanate-lepidote; primary bracts imbricate, suborbicular, 45 mm. long, exceeding the spikes, entire except for the microscopically serrulate apex; spikes subdensely 6-flowered; rhachis nearly straight, 3 cm. long; floral bracts suborbicular to reniform, emarginate and minutely mucronate, exceeding and almost completely enfolding the ovary, nearly imbricate, thin, entire; flowers divergent; sepals strongly asymmetric with a large lateral wing, 13 mm. long exclusive of the 3 mm. terminal mucro, connate for 2 mm.; petals 3 cm. long, naked, the blades elliptic, obtuse; ovary globose, epigynous short but distinct, placentae apical. Pl. I, fig. 20: Primary bract and spike x 1/2; fig. 21: Spike x 1/2; fig. 22: Sepal x 1; fig. 23: Petal and stamen x 1; fig. 24: Section of ovary x 2.

Type in the herbarium of the Instituto Agronômico do Norte, Belém, collected on the ground, Taraquá, Rio Uaupés, State of Amazonas, Brazil, September 9, 1947, by J. Murça Pires (No. 951).

## Plate I

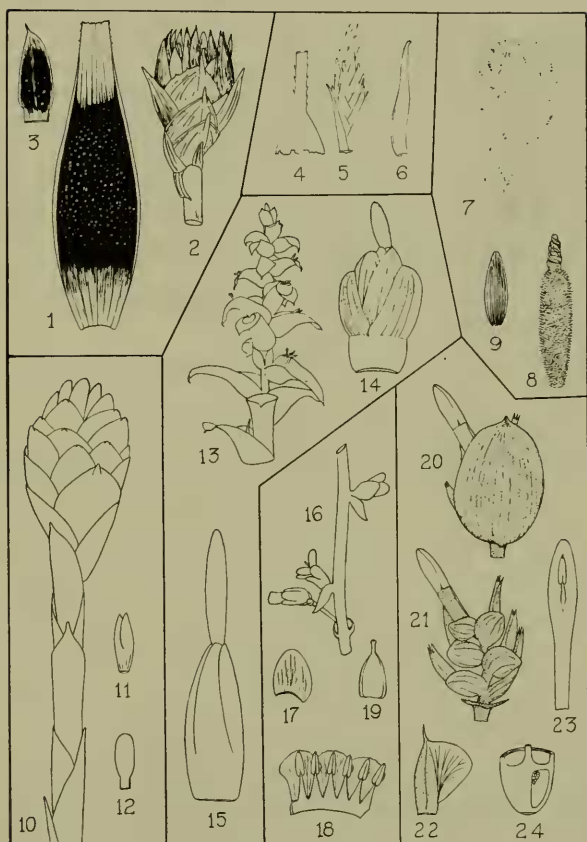


Fig. 1-3: *Greigia aristeguietae*; fig. 4-6: *Navia cardonae*; fig. 7-9: *Puya cardonae*; fig. 10-12: *Guzmania fosteriana*; fig. 13-15: *Guzmania gloriosa*; fig. 16-19: *Dyckia mello-barretoii*; fig. 20-24: *Streptocalyx murcae*.